# mod_signalwire

## 0. About

Allows external service connections to SignalWire telecommunications provider via *integrations,* formerly known as *connectors*. See the official connector product description for more info.

> ⓘ Enabled by default in `modules.conf.xml` for vanilla installations.

Supported services:

- SignalWire STACK
- FreeSWITCH
- Agora
- Zapier

## 1. Capabilities

Enables several valuable functions that will automate configuration and connect services. Without any additional configuration in the FreeSWITCH instance, FreeSWITCH can be connected to SignalWire CLOUD. When doing so the FreeSWITCH configuration will be automagically modified based on what CLOUD services are assembled under the Integration.

- **Voice**
  Voice resources including DIDs, Toll Free numbers can be purchased through CLOUD and directed to your FreeSWITCH Integration, which will automatically configure your FreeSWITCH instance to work with the Voice resources.

- **Messaging**
  Not yet available.

## 2. Components

### 2.1 `mod_signalwire`

This is official SignalWire module is part of FreeSWITCH v1.8.3 and later (check Release Notes) and STACK v 20.18.2 which can be obtained from SignalWire STACK repositories. Contact SignalWire Sales (sales@signalwire.com) for more information. `mod_signalwire` installs as part of the default package and windows installs, and will loaded by default on new installs. See below for installation / loading instructions on existing installations.

### 2.2 SignalWire CLOUD Resources

The CLOUD APIs and dashboard can be used together to enable a FreeSWITCH Integration for voice. The intuitive dashboard will allow users to create the Integration that is associated with your FreeSWITCH instance. APIs take it to another level and allow for quite a bit of flexibility.

## 2.3 CLOUD APIs

SignalWire Cloud APIs are defined here: https://docs.signalwire.com/

RELAY APIs can be found here: https://docs.signalwire.com/relay-rest/

## 2.4 CLOUD Integration UI/UX

Go to **Integrations** in your SignalWire Dashboard.

# 3. Connect to SignalWire by creating a new Integration/Connector

> ⚠ **Only from FreeSWITCH 1.8.3**
>
> You will need to be running at least FreeSWITCH 1.8.3, or STACK 20.18.2 in order to load the SignalWire module.

## Summary of the steps below

Step 0. Load `mod_signalwire` .

Step 1. Get a connection token.

Step 2. Connect your instance to SignalWire (using the Dashboard).

Step 3. OUTBOUND CALLS: set up a purchased phone number to be used with your integration/connector.

Step 4. INCOMING CALLS: associate a connector with a purchased number to handle incoming calls.

> ⓘ If **Step 4.** is omitted, any calls to the purchased number(s) will disconnect with busy signal.

## Step 0. Load `mod_signalwire`

> ✅ **Is it already loaded?**
>
> `mod_signalwire` is enabled by default on new installations, but to check:
>
> > **fs_cli**
> >
> > ```
> > freeswitch@vm> module_exists mod_signalwire
> > true
> > ```

1. Add (or uncomment) the line to your `modules.conf.xml` configuration file:

   **modules.conf.xml**

   ```
   <load module="mod_signalwire"/>
   ```

2. Use **load mod_signalwire** on `fs_cli`

   **fs_cli**

   ```
   freeswitch@vm> load mod_signalwire
   ```

## Step 1. Get a connection token

Issue the command **signalwire token** on `fs_cli` or, if the module had to be loaded, it is automatically generated by **load mod_signalwire** .

```
freeswitch@vm> signalwire token
      _____  _                   __           ___
     / ___/ (_)___   ____ _ ___ _/ / |       / (_)_____ 
     \__ \ / / __ `/ __ \/ __ `/ /| |  / | / / / ___/ _ \
    ___/ / / / /_/ / / / / /_/ / / | |/ |/ / / /  /  __/
   /____/_/\__, /_/ /_/\__,_/_/  |__/|__/_/_/   \___/
          /____/
 
 /====================================================================\
 | Connection Token: abcdef12-1234-abcd-ef56-abcdef123456             |
 \====================================================================/
 Go to https://signalwire.com to set up your Connector now!
```

## Step 2. Connect your instance to SignalWire (using the Dashboard)

1. Click on **Integrations**, and then to **Connect to FreeSwitch**

2. Fill out the form by adding a name and pasting the **connection token** from Step 1.



## Step 3. OUTBOUND CALLS: set up a purchased phone number to be used with your integration /connector

Click on your newly created connector, specify your caller ID, and enter the one of your purchased phone numbers. (I had to copy-paste it for now from **Purchased Numbers** menu.)



## Step 4. INCOMING CALLS: associate a connector with a purchased number to handle incoming calls

Click **Edit** on the purchased phone number,

and, depending on your use case, choose "Voice Calls" or "Fax" at "HANDLE INCOMING CALLS AS", select "a FreeSwitch Connector" at "HANDLE CALLS USING", and finally, select the connector that you desire.



## 4. Dialplan sample

**/etc/freeswitch/dialplan/default.xml (for example)**

```
    <extension name="SignalWire INTEGRATIONS incoming call">
      <condition field="destination_number" expression="^(\+18005551212)$"> <!-- the number you assigned in
your dashboard -->
        <action application="bridge" data="user/1000"/>
      </condition>
    </extension>

    <extension name="signalwire INTEGRATIONS outgoing call">
      <condition field="destination_number" expression="^(\+?\d{11})$">
        <action application="answer"/>
```

```
        <action application="bridge" data="sofia/gateway/signalwire/$1"/>
    </condition>
  </extension>
```

## 5. Location of `mod_signalwire` configuration

`mod_signalwire` configuration settings are saved in memory of the FreeSWITCH instance, but they are also cached in the storage directory, in case it can't connect to SignalWire CLOUD on restart.

To find the storage directory, use one of the following:

**Linux terminal**

```
$ fs_cli -x 'eval $${db_dir}'
```

**fs_cli**

```
freeswitch@vm> eval $${db_dir}
```

For vanilla installations, the location is **/var/lib/freeswitch/db/sofia_reg_signalwire.db**

## Manage Connectors/Integrations

> ⚠ **Outdated images**
>
> The images still have Connectors on them, but the principles are the same.

### Settings & Caller ID

Once the setup is complete, you can now enter the outbound Caller ID for this Integration which DID / Phone Number you would like to send calls as.



### Associating Phone Numbers with Integrations

- Select Phone Numbers from the left navigation bar
- Then select the Number you wish to associate with your Integration.

- Select Integration, and the Integration type you wish to associate with your SignalWire service.



## Pricing and Fees

SignalWire Cloud fees are based on what our customers consume. There is no cost associated with the mod_signalwire module itself.

https://signalwire.com/disruptive-pricing

## Support

API Documentation

https://docs.signalwire.com/relay-rest

Slack Community

https://slack.signalwire.community

instructions for setting up mod_signalwire on FreeSWITCH and creating a CLOUD Integration (private)

https://freeswitch.org/confluence/display/FREESWITCH/mod_signalwire

Wiki (private)

https://github.com/signalwire/mod_gcloud/wiki